

I/WE CLAIM:

1. A method for obtaining rotational power from a driving shaft to drive an unidirectional pump of an aircraft system, comprising:

providing a driven shaft disposed at an angle with respect to the driving shaft, and operatively connected to the unidirectional pump; and

providing a gear set for transferring rotational power from the driving shaft to the driven shaft, the gear set being selectively arranged in first and second configurations, depending on a rotational direction of the driving shaft, in order to ensure that a rotational direction of the driven shaft satisfies a predetermined rotational direction of the unidirectional pump.

2. The method as claimed in claim 1 comprising:

mounting a first bevel gear to one of the driving and driven shafts in a first position thereof when the first configuration is selected, and mounting a second bevel gear to the same shaft in a second position thereof when the second configuration is selected, and

mounting a third bevel gear to the other of the driving and driven shafts, the third bevel gear meshing into the first or the second bevel gear.

3. The method as claimed in claim 2 comprising:  
mounting the third bevel gear to the driven shaft, and  
selectively mounting the first and second bevel gears  
to the driving shaft.
4. The method as claimed in claim 3 wherein the driven  
shaft is disposed substantially perpendicular to the  
driving shaft.
5. The method as claimed in claim 1 comprising  
determining a first position on the driving shaft for  
mounting a first bevel gear thereon when the first  
configuration is selected such that the first bevel  
gear meshes into a third bevel gear mounted on the  
driven shaft, at a first point of the third bevel  
gear; and  
  
determining a second position on the driving shaft for  
mounting the second bevel gear thereon when the  
second configuration is selected such that the  
second bevel gear meshes into a third bevel gear  
mounted on the driven shaft, at a second point of  
the third bevel gear diametrically opposed to the  
first point.
6. An accessory driving apparatus for an aircraft system,  
comprising  
  
a driving shaft adapted to provide rotational power;

- a driven shaft adapted to be driven by the driving shaft, and to be connected to an accessory unit to be driven, the driven shaft being positioned at an angle with respect to the driving shaft; and
  - a gear set for transferring rotational power from the driving shaft to the driven shaft, the gear set being adapted for selective arrangement in first and second configurations to permit the driving shaft to rotate in either rotational direction without affecting a predetermined rotational direction of the driven shaft.
7. The apparatus as claimed in claim 6 wherein the driving and driven shafts are positioned substantially perpendicularly to each other.
8. The apparatus as claimed in claim 7 wherein the gear set comprises a first bevel gear when the first configuration is selected, a second bevel gear when the second configuration is selected, and a third bevel gear, one of the first and second bevel gears selectively meshing into the third bevel gear.
9. The apparatus as claimed in claim 8 wherein the third bevel gear is mounted to the driven shaft at an end thereof, and wherein the first and second bevel gears are selectively mounted to the driving shaft in first and second positions thereof, respectively, depending on a rotational direction of the driving shaft.

10. The apparatus as claimed in claim 8 wherein the third bevel gear is mounted to the driving shaft at an end thereof, and wherein the first and second bevel gears are selectively mounted to the driven shaft in first and second positions thereof, respectively, depending on a rotational direction of the driving shaft.
11. The apparatus as claimed in claim 9 wherein the first and second positions for selectively mounting the respective first and second bevel gears to the driving shaft, are axially located on the driving shaft such that the first bevel gear meshes into the third bevel gear at a first point, and such that the second bevel gear meshes into the third bevel gear at a second point diametrically opposed to the first point.
12. The apparatus as claimed in claim 11 wherein the respective first, second and third bevel gears comprise spiral teeth, the first and second bevel gears being substantially identical.
13. An apparatus for reversibly driving a propeller control unit (PCU) pump of an aircraft system, comprising:
  - a driven shaft adapted to be driven by a propeller shaft, and to be connected to the PCU pump, the driven shaft being positioned at an angle substantially perpendicular with respect to the propeller shaft; and
  - a gear set including:

a first bevel gear selectively mounted to the propeller shaft in a first axial position thereof,

a second bevel gear selectively mounted to the propeller shaft in a second axial position thereof,

a bevel pinion mounted to the driven shaft at an end thereof for selectively meshing into the first and second bevel gears, and

the selection of mounting the first and second bevel gears to the propeller shaft being based on a rotational direction of the propeller shaft, in order to ensure that the driven shaft rotates in a predetermined rotational direction.

14. The apparatus as claimed in claim 13 wherein a first meshing point between the bevel pinion and the first bevel gear, and a second meshing point between the bevel pinion and the second bevel gear are located diametrically opposed with respect to the bevel pinion, whereby the selection of the meshing points maintains the predetermined rotational direction of the driven shaft when the apparatus is adapted to be used with propeller shafts rotating in either rotational direction.